Composites for Exploration (CoEx)

Completed Technology Project (2011 - 2013)

Project Introduction

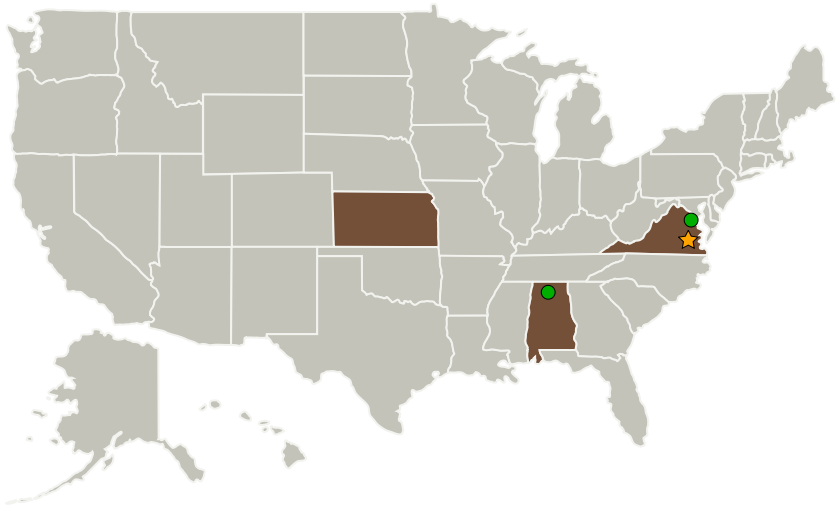
A key goal for the Composites for Exploration (CoEx) Project is to develop high payoff dry composite structures and materials technologies with direct application to enable NASA's future space exploration needs, with a focus on large scale, dry composite structures representative of a payload fairing for large launch vehicles.

The project will devise test and development approaches to support development of large scale composite payload fairing structures, including conducting tests and analyzes of structures that are representative of a 10 m diatmeter composite payload fairing for a 100 to 130 mt Space Launch System (SLS). The project will develop test procedures for large composite sturctures testing and fabricate a 1/6th-arc panel for a 10 m diameter composite fairing to demonstrate full-scale materials and manufacturing technologies for composite payload fairing structures.

Anticipated Benefits

Anticipated benefits of this technology for funded missions include substantial weight and cost savings over current metallic launch vehicle structures.

Primary U.S. Work Locations and Key Partners



Composites for Exploration

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Organizational Responsibility

Responsible Mission Directorate:

Exploration Systems Development Mission Directorate (ESDMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Exploration Capabilities

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Organizations Performing Work	Role	Type	Location
Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia
Marshall Space Flight Center(MSFC)	Supporting Organization	NASA Center	Huntsville, Alabama
NASA Headquarters(HQ)	Supporting Organization	NASA Center	Washington, District of Columbia
Spirit Aerosystems Corporation	Supporting Organization	Industry	Wichita, Kansas

Primary U.S. Work Locations	
Alabama	District of Columbia
Kansas	Virginia

Project Transitions

October 2011: Project Start

September 2013: Closed out

Closeout Summary: To request closeout information for this project, please send an email with the Subject "TechPort Closeout Report Request" to hq-aes@mail.nasa.gov and specify which project closeout report you are requesting.

Project Management

Program Director:

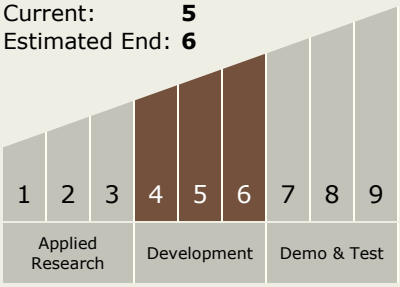
Christopher L Moore

Project Manager:

Keith L Woodman

Technology Maturity (TRL)

Start: **4**
Current: **5**
Estimated End: **6**



Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - TX12.3 Mechanical Systems
    - TX12.3.1 Deployables, Docking, and Interfaces